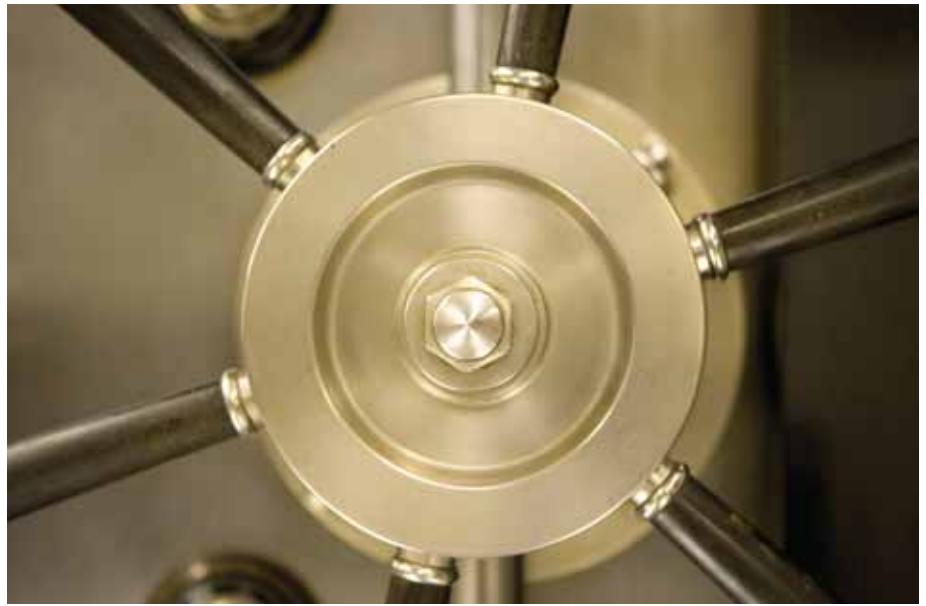




Continuity solutions for retail banking

A solution brief from HP StorageWorks

In today's retail banking environment, having a continuity solution that ensures critical data is always available is a necessity—not only for improving market share, but also for complying with present and future regulatory requirements.

Retail banks are under tremendous pressure today to drive growth in revenue and profits. At the same time, they are faced with intense competition and the challenge of creating long-term differentiation for their product offerings. Mergers and acquisitions, changing customer preferences, and stringent regulatory frameworks have made banks vulnerable to losing market share quickly.

In addition, heightened awareness of terrorist threats and cyber crime are concerns for both banks and their customers. As the TowerGroup asserts in Terror Warning for US Financial Institutions, "Firms must do much more to ensure that front-office and delivery functions continue uninterrupted in the face of crisis."

In the past, if IT systems went down, a bank could manage without them for a while. Today, technology is woven so thoroughly into the fabric of day-to-day processes that a bank's data is its business. To compete effectively and grow, retail banks need robust continuity solutions that ensure the availability of critical data 24 x 7.

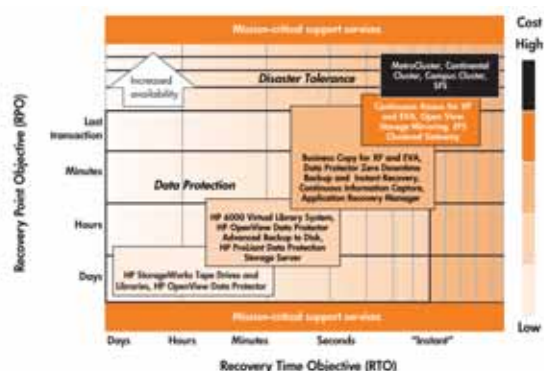
Threats to continuous operation

Security breaches, cyber crime, business disruptions, and downtime have become a major focus for CIOs in the financial services industry. To remain viable, banks must manage multiple types of risk—operational risk, compliance risk, financial risk, and a unique type of risk called "concentration risk," which derives from the historic location of financial centers in a handful of global financial centers, such as New York, London, Frankfurt, Hong Kong, and Singapore.

To decrease risks, banks must anticipate and prepare for wide-scale, systemic disturbances as well as isolated, local disturbances

Financial institutions in general, are well aware that getting consistent and timely information to everywhere the customer is, in real time, as the customer interacts with the bank is imperative. If the flow of transactions from any number of delivery channels, such as ATM's and online banking, is interrupted, having a continuity solution in place assures information availability and disruption transparency to the customer.

Figure 1. Continuum of continuity solutions.



Choosing the right continuity solution

Continuity solutions consist of technologies and services that reduce risk, protect critical operations from downtime, and facilitate a quick recovery if a catastrophe occurs.

Before a business can choose an appropriate continuity strategy, it needs to understand its recovery point objective (RPO) and recovery time objective (RTO) for the data that must be protected.

RPO is a measure of how much data a business can afford to lose for a particular process. It represents a company's tolerance for data loss. For example, for applications that must be available 24 x 7, the RPO might be the last transaction, whereas for file servers, the RPO might be all data from the previous 24 hours.

RTO is the maximum allowable downtime before data is available again to an application or an end user.

The continuity continuum

No single continuity solution is right for all situations. Different continuity solutions—each at a unique price point—can be deployed to meet various RPO and RTO requirements.

Data protection, data recovery and disaster tolerance solutions form a continuum which includes five overlapping categories which are illustrated in Figure 1.

- **Traditional backup**—Tape libraries and backup software supply the core architecture onto which different technologies and solutions can be added.
- **Two-stage backup and recovery**—With this solution, online data stored on a primary disk array is backed up to a disk-based device (stage one) before being copied to a tape device (stage two) for longer-term storage and eventual archiving. Virtual tape solutions can also be employed at this stage.

- **Local data replication**—This solution involves replicating online data to a second disk within an array, which is then presented to the storage area network (SAN) and backed up to a tape device. This solution consists of software-based tools that create copies of data volumes within the same storage system using mirrors, snapshots, or clones. Any lost data can be recovered within minutes.
- **Remote data replication**—With this solution, the online data at site A is replicated to a separate disk array located in a second array at site B. At site B, the data is readily available for backup to an appropriate device, such as a tape library. Lost data can be recovered within minutes from the replicated data copy with minimal impact to ongoing operations.
- **Clustering**—A cluster is a collection of servers, arrays, or both that “act as one.” If one server or array fails, another in the cluster can take over, guided by the appropriate cluster configurations.

Application failover through clustering offers continuous operations for mission-critical environments. If a failure occurs on the primary application server, the application automatically fails over to a different, healthy server to continue operations.

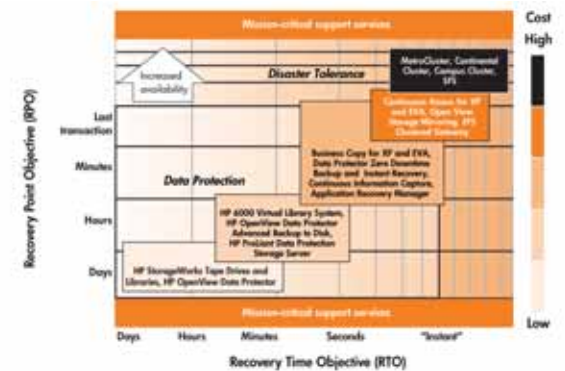
In Figure 1, the vertical axis represents the RPO or tolerance for data loss. The shortest time (“last transaction”) represents the least data loss and the highest availability and uptime.

The horizontal axis of Figure 1 represents the RTO or maximum allowable downtime. Once again, the shortest time (“instant”) represents least data loss and the highest availability and uptime.

A higher-order continuity solution is almost never used without a lower-order solution. For example, even if an array is replicated using snapshots and clones, tape will usually still be used to back up data for long-term storage and disaster-recovery purposes.

Figure 2. HP StorageWorks solutions portfolio for continuity
This is only a representation of selected products available. See your HP representative for the complete product portfolio.

“NetBank has more than 50 terabytes of data stored on three HP Enterprise Virtual Array systems. Backups were a real challenge. By migrating to the HP ESL712 library with LTO drives, we are able to fit backups into a shrinking window. We’ve also reduced tape use by about 70%, saving us up to \$1 million per year.”
 Todd Warnock
 Director of Technical Services at NetBank



HP StorageWorks continuity solutions

HP offers a complete portfolio of continuity solutions for varying RPO and RTO requirements, as shown in Figure 2.

While some continuity solution providers use a cookie-cutter approach and proprietary, rigid solutions, HP solutions support open standards, and HP partners with leading retail banking application providers.

HP also offers comprehensive consulting and support services that encompass all the phases necessary to build a robust continuity solution. From the first phase of analysis through the design, develop, integrate, manage, and evolve phases, HP uses a collaborative, holistic approach that involves a bank’s business and IT leaders to ensure that the end-to-end solution solves business, not just IT, problems.

HP StorageWorks continuity solutions—putting information to work.

When NetBank, Inc. (Nasdaq: NTBK; www.netbankinc.com) needed to slash the time required for backups, consolidate tape usage, and accelerate and centrally manage the storage, maintenance, retrieval, and archiving of critical data while meeting legal requirements, it turned to HP for help.

NetBank provides a broad line of financial products and services to retail and commercial banking customers. Based in Alpharetta, Georgia, USA, the company operates the country’s leading online bank, and it ranks as a top-30 U.S. mortgage lender through its various mortgage subsidiaries.

NetBank accomplished its business goals using an HP continuity solution that includes the HP StorageWorks Enterprise Virtual Array (EVA) 8000, the HP StorageWorks ESL712e E-Series Tape Library, and the HP StorageWorks Reference Information Storage System (RISS).

As Todd Warnock, Director of Technical Services at NetBank, explains, in addition to enabling the maintenance, retrieval, and archival of critical data, their HP continuity solution saves the bank money.

The bottom line: A continuity solution is only as effective as the company who designs, implements, and stands behind it. HP offers a unique blend of experience, domain expertise, world-class engineering, integrated support services, and single-source accountability to ensure that a bank’s risk is minimized without exceeding its budget.

The HP Advantage

HP has long-standing technical and business solution expertise in banking which includes the processing of ATM/POS transactions, in the areas of application and data integration, payment-switching applications, Internet applications, transaction engines, customer service, fraud and risk management, and real-time information. The following is just a sampling of what is offered:

- The HP Adaptive Bank solution framework is a service-oriented architecture (SOA) for multi-channel delivery and transformation, providing the industry’s most comprehensive business and technology solutions. With the Adaptive Bank Data Model, banks have a complete and consistent 360-degree view of customer interactions across all service delivery channels.
- The HP Core Banking approach is a cost-effective, customer-centric method of integrating your end-to-end banking systems for product-development flexibility, integrated channel management, real-time straight-through processing, holistic data management, and end-to-end security.
- The HP NonStop server plays a key role in the world’s retail banking industry, providing 24 x 7 availability, inherent reliability, and massive scalability that today’s real-time financial institutions need. These attributes, combined with a broad range of StorageWorks solutions from HP provide a robust platform for addressing today’s retail banking challenges.

Figure 3. Causes and impact of business disruptions and downtime

“Every minute of downtime—planned or unplanned—costs the institution more than just millions of dollars. It can also cost them the confidence of those who depend on that institution. This includes customers, suppliers, and business partners.”

Mark Vanston, senior advisor for business continuity and enterprise risk strategies at HP



Why HP?

Why do firms such as NetBank trust HP to provide their continuity solutions? One reason is that HP has over three decades of experience providing technology solutions and services to the global financial services industry. For example:

- HP has a significant presence in the global top 200 banks, top 50 brokerages, and top 25 insurance carriers.
- HP powers over 130 exchanges, including 18 of the world's largest exchanges.
- HP supports 95% of the world's exchange transactions.
- HP is a leader in credit card transactions and electronic funds transfers.
- HP has proven capabilities at many of the world's largest banks.

HP also has over 25 years experience implementing the technologies that provide the backbone of continuity—high availability, data protection, and disaster recovery—and HP has successfully handled over 5,000 recoveries. With more than 70 recovery facilities located in 40 countries, HP can provide global monitoring, management, disaster rehearsal, and recovery capabilities.

Take the first step today

To learn more about how HP StorageWorks and other HP banking solutions can help you streamline business processes, contact your HP representative or visit:

- HP StorageWorks solutions for business continuity and availability: www.hp.com/go/storageworks/bca
- HP StorageWorks home page: www.hp.com/go/storageworks
- HP business continuity services: www.hp.com/go/businesscontinuity
- Financial services industry solutions: www.hp.com/go/banking

For more information, go to www.hp.com/go/storageworks/bca

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Technology for better business outcomes